

REMARKS

Correction of the abstract is required since it is less than 50 words and does not provide an adequate description of the invention.

The disclosure is objected to because formalities in that a space should be added between "Claim" and "1".

Claims 1-20 are currently pending. Claims 1, 14, and 17-20 are rejected under 35 U.S.C. 102 (b) as being anticipated by Daniel et al., WO 02/100912 A1. Claims 5-13 are rejected under U.S.C. § 103(a) as being unpatentable over Daniel et al. Claims 15 and 16 are rejected under U.S.C. § 103(a) as being unpatentable over Daniel et al. in view of Lagerstedt-Eidrup et al., U.S. 2003/0208173 A1.

Claims 2-4 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and intervening claims.

Abstract

A new abstract is provided on a separate sheet.

Objection To The Disclosure Because Of Informalities

Claims 4 and 5 have been amended but only to correct a typographical error. A space has been added between "Claim" and "1".

The Rejection of Claims 1,14, and 17-20 Under U.S.C § 102(b)

The rejection of Claims 1, 14, and 17-20 under U.S.C § 102(b) as being anticipated by Daniel et al. is respectfully traversed.

The Daniel reference does not disclose all elements of the instant invention.

With regard to Claim 1, Daniel discloses a composition comprising a polymeric backbone and radiation-activatable groups which are capable of forming covalent crosslinking bonds when impacted by radiation energy and being fixed on a fibrous material after radiation, (page 3, line 44-page 4, line 9). The fibers are preferably cellulose fibers.

In another embodiment of the Daniel invention, the radiation activatable polymer can form crosslinking bonds to the fibrous material either prior to, simultaneously or after intrafiber crosslinking the fibrous material by *a thermally reactive agent*. The thermally reactive agent is a low molecular crosslinker as described in EP 429,112, EP 427,317 and 252,649 or any Fixapret. In the case of the first two patents, the crosslinking agents are C₂-C₉ polycarboxylic acids, and in the '649 patent C₂-C₈ dialdehydes, acid analogues of the dialdehydes and oligomers of the dialdehydes are used. The Fixaprets are *modified* Dimethyloldihydroxyethylene urea (DMDHEU) as described in DE-A 19654739 wherein the nitrogen atom in positions adjacent the carbonyl group are *reacted with* a monomeric C₁-C₅ alcohol and a polyol selected from the group consisting of ethylene glycol, diethylene glycol, 1,2-butylene glycol, 1,3 butylene glycol, 1,4-butylene glycol, glycerol, and polyethylene glycols of the formula HO(CH₂CH₂)_n where 3≤n≤20 (page 6, lines 43- page 4, line 8). Note that the C₁-C₅ alcohol and the polyol are reacted with DMDHEU, i.e. the DMDHEU is derivatized with these compounds. With the exception of glycerol which has three hydroxyl groups all the polyols cited have only two hydroxyl groups. Daniel also discloses that "*the polymer of the invention*" has a CIE-brightness value of 75 and even larger.

With regard to Claim 14, Daniel discloses a brightness value "*of the polymer of the invention*" of 82 and even larger, (page 7, lines 26-32).

With regard to Claims 17-20, Daniel discloses that fibrous materials "made with radiation activatable resin formulations according to this invention" are suitable for use in absorbent articles.

In the instant invention, specifically Claim 1, an absorbent product is claimed "comprising cellulosic fibers reacted with an effective amount of a *crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol* wherein the *individualized intrafiber crosslinked cellulosic fibers are characterized by a Whiteness Index(WI_{CDM-L}) greater than about 69.*"

Daniel does not teach cellulosic fibers that are reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol and he does not teach individualized intrafiber crosslinked cellulosic fibers.

Furthermore, he does not teach that individualized intrafiber crosslinked cellulosic fibers which are characterized by a Whiteness Index, (WI_{CDM-L}) greater than about 69. Since the Daniel reference does not teach all the elements of the instant invention as arranged in the claim, Applicants requests withdrawal of the rejection and allowance of the claims.

The Rejection of Claims 5-13 Under U.S.C. § 103a

Claims 5-13 are rejected under 35 U.S.C.103(a) as being unpatentable over Daniel et. al.

With regard to claims 5-8, and, as stated earlier, Daniel discloses Fixaprets which are *modified* Dimethyloldihydroxyethylene urea (DMDHEU) as described in DE-A 19654739 where the nitrogen atom in positions adjacent the carbonyl group are *reacted with a monomeric C₁-C₅ alcohol and a polyol* selected from the group consisting of ethylene glycol, diethylene glycol, 1,2-butylene glycol, 1,3 butylene glycol, 1,4-butylene glycol, glycerol, and polyethylene glycols of the formula HO(CH₂CH₂)_n where 3≥n≥20 (page 6, lines 43- page 4, line 8). Note that the C₁-C₅ alcohol and the polyol are reacted with DMDHEU, i.e. the DMDHEU is derivatized with these compounds. It is this derivatized compound that is used, in one embodiment of the Daniel invention, *together with* the radiation activatable polymeric resin to form crosslinking bonds (page 6, line 43 – page 7, line 8).

In the instant invention, specifically Claim 1, cellulosic fibers are reacted with an effective amount of a *crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol* and the *individualized intrafiber crosslinked cellulose fibers are characterized by a Whiteness Index (WI_{CDM-L}) greater than about 69.*" Specifically, the crosslinking agent and the polyol are *separate* compounds that are not preformed prior to the crosslinking of the cellulosic fibers. Stated in another way, the crosslinking agent and the polyol are separate compounds that are reacted with the cellulosic fibers.

Applicants appreciate the Examiners acknowledgement that the reference does not disclose the use of crosslinking agents specified by the claimed invention.

The Examiner states that it would have been obvious to one of ordinary skill in the art to select a crosslinking agent from the group disclosed by the claimed invention. Applicants submit that even if the level of ordinary skill is high it is insufficient to provide the necessary motivation or suggestion to show obviousness in the instant invention.

Accordingly, Daniel does not disclose the claimed invention.

With regard to Claims 9-13 and as stated twice earlier, Daniel does not disclose a crosslinking agent with a polyol. Rather, the Fixaprets are used to crosslink cellulose fibers. These compounds are modified DMDHEU urea resulting from the reaction of DMDHEU and a polyol.

Applicants appreciate the acknowledgement by the Examiner that the Daniel reference does not disclose the use of the groups of polyols specified by the claimed invention.

The Examiner states that the claimed invention does not provide substantial support for these groups. Applicants disagree. The Examiner is requested to review Table 1, page 12 to page 16 which shows the beneficial effect of up to ten additives used on two different pulp grades at five different levels. In fact, Whiteness Indices (WI_{cdm-1}) up to 85.07 are shown.

In view of the above remarks Applicants request withdrawal of the rejection of Claims 5-13.

The Rejection of Claims 15-16 Under U.S.C. § 103a

Claims 15-16 are rejected under U.S.C. § 103(a) as being unpatentable over Daniel et al. in view of Langerstedt-Eidrup et al.

Daniel et al. teach a photo-activatable polymeric resins which are capable of forming covalent crosslinking bonds when impacted by radiation energy and being permanently fixed on a fibrous material after irradiation (page 3, line 44 - page 4, line 9). Langerstedt - Eidrup et al. teach an absorbent article containing a skin conditioning agent contained in a hydrogel foam material.

Applicants submit that there is no motivation, hint or suggestion in the Langerstedt-Eidrup reference to combine with the Daniel reference. Furthermore, as

indicated above, the Daniel reference does not disclose the claimed invention. Thus the combination does not make the claimed invention obvious.

In view of the above remarks Applicants request withdrawal of the rejection of Claims 15-16.

Applicants appreciate the fact that Claims 2-4 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

CONCLUSION

Based on the foregoing, Applicants submit that the application is in condition for allowance and request that it proceed accordingly. If the Examiner has any further questions or comments the Examiner is invited to contact the Applicants' agent.

Respectfully submitted



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